

Notice of Allowability

Application No.

10/631,087

Examiner

William C. Choi

Applicant(s)

BERNSTEIN ET AL.

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 9/25/2006.
2. ☒ The allowed claim(s) is/are 1,2,4-12,16-and 17.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

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All claims pending thus being allowable, prosecution on the merits is closed in this application. A statement of the examiner's reasons for allowance is provided in the paragraphs, which follow below.

REASONS FOR ALLOWANCE

Claims 1, 2, 4-12, 16 and 17-20 are allowed.

The instant application is deemed to be directed to a nonobvious improvement over the invention of Moon et al (U.S. 2003/0095307 A1), as being a representative example in the art to which the instant invention pertains. In particular, said improvement provides a microelectromechanical device with an attenuation versus control voltage that is essentially monotonic and provides that an increase in tilt produces more attenuation.

More specifically, independent claim 1 is drawn to a spatial light modulator system comprising a MEMS array of tilting mirrors supported by symmetrically located flexures and an interface control circuit to reconfigure wavelength channel definitions as claimed, specifically wherein each mirror further comprises a means for providing strain relief. (Claim 1, lines 5-6).

Similarly, independent claim 10 is drawn to a spatial light modulator system comprising a MEMS array of tilting mirrors and an interface control circuit to reconfigure wavelength channel definitions as claimed, specifically wherein each mirror in said MEMS array comprises a single tilting cantilever with an asymmetric flexure resulting in 2-axis rotation. (Claim 10, lines 8-9).

Independent claim 12 is drawn to a spatial light modulator system comprising a MEMS array of tilting mirrors and an interface control circuit to reconfigure wavelength channel definitions wherein each mirror is supported by side support flexures whose center is offset as claimed, specifically wherein each mirror comprises means for providing strain relief (Claim 12, lines 8-9).

Independent claim 16 is drawn to a spatial light modulator system comprising a MEMS array of tilting mirrors and an interface control circuit to reconfigure wavelength channel definitions as claimed, specifically wherein each mirror has at least one landing electrode having a same potential as said mirror (Claim 16, lines 9-10).

Finally, claim 17 is drawn to a spatial light modulator system comprising a MEMS array of tilting mirrors, an interface control circuit to reconfigure wavelength channel definitions and wherein each of said MEMS mirrors comprises means for maintaining mirror flatness as claimed, specifically wherein said means comprises at least one stiffener rib located above or below the mirror plane (Claim 17, lines 7-9).

The prior art taken either singly or in combination fails to anticipate or fairly suggest the limitations of applicant's independent claims, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The claimed invention is therefore considered to be in condition for allowance as being novel and nonobvious over prior art.

OTHER REMARKS/INFORMATION

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (571) 272-2324. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W.C.
William Choi
Patent Examiner
Art Unit 2873
December 11, 2006


RICKY MACK
SUPERVISORY PATENT EXAMINER